REMARKS/ARGUMENTS

Status of the Claims

Upon entry of the present amendment, claims 74-75 and 78-109 are pending.

The Examiner is thanked for indicating that claims 81-109 are allowable.

Non-Statutory Double Patenting

Claims 74-75 and 78-80 are rejected under the judicially-created doctrine of obviousness-type double patenting as allegedly obvious over claims 1, 21 and 31 of U.S. Patent No. 6,897,072 ("the '072 patent"). This rejection is respectfully traversed.

Claim 1 of the '072 patent is directed to a mass spectrometer probe that requires a hydrogel material on its surface. Claim 21 sets forth that the hydrogel material has binding functionalities, and that the binding functionality can be a biotin group (*i.e.*, a vitamin group). Claim 31 further recites that the hydrogel is derived from biotin monomers comprised of N-biotinyl-3-(meth)acrylamido-propylamine and derivatives thereof.

In contrast, the probes of the present invention do not require a hydrogel, nor are they directly bonded to biotin. As the Examiner appreciates, biotin is a small organic molecule that can be conveniently attached to a polypeptide of interest. Therefore, the probes of the present invention have a biotin binding moiety immobilized by chemical bonding to the sample presenting surface of the probe. By immobilizing the moiety that binds to biotin on the probe, the probes of the present invention can conveniently capture at least one biotinylated protein of interest. By comparison, the probes of the '072 patent cannot capture a biotinylated protein of interest, because the '072 patent probes themselves are biotinylated through the hydrogel material on the surface. The probes of the '072 would require that a polypeptide of interest be attached to a biotin binding moiety.

Importantly, the probes of the present invention and those claimed in the '072 patent function according to patentably distinct mechanisms. The probes of the '072 patent are biotinylated through a hydrogel material, and can bind to biotin binding moieties (*e.g.*, polypeptides including avidin and streptavidin). Instead, the probes of the present invention

have immobilized on their sample presenting surface a biotin binding moiety, and the biotin binding moiety is bound to at least one biotinylated protein of interest. In the present invention, it is uncomplicated to attach a biotin molecule to a protein of interest and then bind the biotinylated protein to a biotin binding moiety immobilized on a probe. This is distinguished from the probes of the '072 patent, which capture polypeptides linked to biotin binding moieties (*e.g.*, polypeptides including avidin and streptavidin).

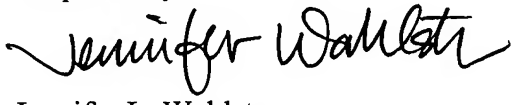
Clearly, the probes of the present invention and the probes of the '072 patent utilize the biotin binding moiety-biotin interaction differently. Because the probes of the present invention and the '072 patent are patentably distinct, the Examiner is respectfully requested to withdraw this obviousness-type double-patenting rejection.

CONCLUSION

In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 415-576-0200.

Respectfully submitted,



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Attachments
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